

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number  
**WO 2005/012180 A2**

- (51) International Patent Classification<sup>7</sup>: **C02F**
- (21) International Application Number:  
PCT/SG2004/000232
- (22) International Filing Date: 2 August 2004 (02.08.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
200304231-4 2 August 2003 (02.08.2003) SG
- (71) Applicant and  
(72) Inventor: GUEH, How Klap [SG/SG]; Blk 347, Clementi Ave. 5, #05-66, Singapore 120347 (SG).
- (74) Agent: CHONG, Y., F.; PSA Building, P.O. BOX 0399, Singapore 911144 (SG).
- (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: METHOD AND APPARATUS FOR HULL INTEGRATED SEAWATER REVERSE OSMOSIS SYSTEM

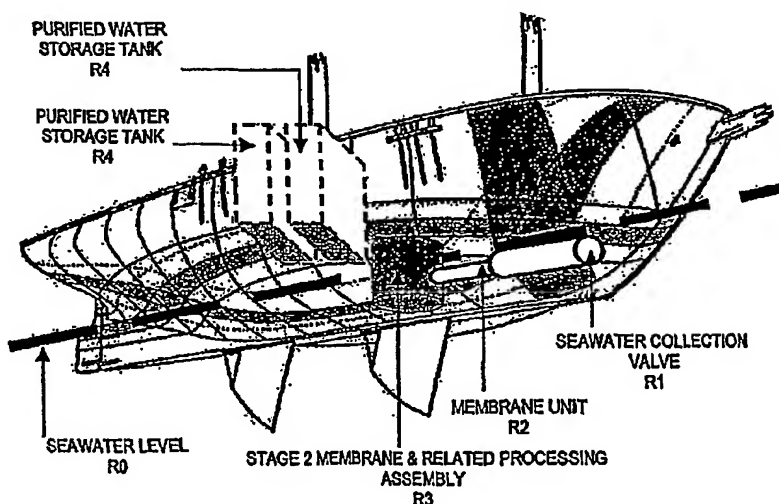


Figure 2 illustrates a perspective diagram of a sea vessel with a valve combined with additional filters and at least 1 membrane to filter seawater incoming via the said valve to yield seawater with a reduced amount of impurities, such as sodium chloride.

(57) Abstract: The present invention relates to a method and apparatus for having a integrated fluid media filtration and membrane unit within the hull of a sea-bound vessel. The vessel's propulsion will drive the flow of seawater into the media filtration and membrane unit. Multiple stages of the passing of seawater via the membrane and/or a series of progressive membranes can be implemented to reduce the level of sodium chloride present in seawater to desirable specifications.